

CLAIMS

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1. An audio visual data recording apparatus, comprising:
a recording medium for recording video and/or audio data;

recording area recording means for performing recording of video and/or audio data in a recording area in said recording medium;

command receiving means for receiving control commands from a device connected via a bus; and

AV file management means when a command that creates an AV file is received by said command receiving means for setting an AV file management table containing information on the correspondence between said recording medium recording areas and the AV file, and for creating an AV file of the prescribed size;

characterized in that said recording area recording means performs recording of video and/or audio data in said recording area on the basis of said AV file management table.

2. The audio visual data recording apparatus according to claim 1, characterized in that said recording area recording means performs recording of video and/or audio data by repeated overwriting in said recording area

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corresponding to said AV file on the basis of said AV file management table.

3. The audio visual data recording apparatus according to claim 2, characterized in that:

said command receiving means receives an additional recording instruction command that performs an additional recording operation on said AV file; and

said recording area recording means, on reception of said additional recording instruction command, performs recording of video and/or audio data in a recording area different from said repeatedly overwritten recording area.

4. An audio visual data recording apparatus, comprising:

a recording medium that records video and/or audio data;

recording area recording means for performing recording of video and/or audio data in a recording area in said recording medium;

command receiving means for receiving control commands from a device connected via a bus; and

AV file maximum size setting means for, when a maximum size setting command that stipulates the maximum size of an AV file is received by said command receiving means, setting said maximum size in the AV file management table,

characterized in that said recording area recording means performs recording of video and/or audio data in

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said recording area on the basis of said AV file management table.

5. The audio visual data recording apparatus according to claim 4, characterized in that said recording area recording means performs recording of video and/or audio data by repeated overwriting in said recording area corresponding to said AV file on the basis of the AV file maximum size in said AV file management table.

6. The audio visual data recording apparatus according to claim 5, characterized in that

said AV file maximum size setting means, on reception of a new maximum size setting command by said command receiving means during a recording operation, re-sets the maximum size in the AV file management table; and

said recording area recording means performs recording of video and/or audio data in said recording area, by switching the operation on the basis of said re-set AV file management table.

7. An audio visual data reproduce apparatus, comprising:

a recording medium for recording video and/or audio data;

AV file management means for managing an AV file management table containing information on the correspondence between said recording medium recording areas and an AV file;

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command receiving means for receiving control commands from a device connected via a bus; and

reproduce means for receiving said control commands and playing back video and/or audio data recorded by the audio visual data recording apparatus according to any of claims 1 through 6,

characterized in that

said command receiving means receives a reproduce instruction command that performs a reproduce operation on AV file data; and

said reproduce means, on reception of said reproduce instruction command, performs reproduce of video and/or audio data from said recording area on the basis of said AV file management table.

8. The audio visual data reproduce apparatus according to claim 7, characterized in that said reproduce means, when there is an unrecorded area, which is an area in which video and/or audio data has not been recorded, in said recording area, plays back an amount of alternate data corresponding to the amount of data in that recording area.

9. The audio visual data reproduce apparatus according to claim 7, characterized in that said reproduce means, when there is an unrecorded area, which is an area in which video and/or audio data is not recorded, in said recording

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area, stops reproduce of video and/or audio data from said recording area.

10. The audio visual data reproduce apparatus according to any one of claims 7 through 9, characterized in that said reproduce means plays back data recorded in said recording area, in order from the oldest data recorded.

11. An audio visual data recording and reproduce apparatus characterized by combining the audio visual data recording apparatus according to any one of claims 1 through 6, and the audio visual data reproduce apparatus according to any one of claims 7 through 10.

12. An audio visual data recording method using:
a recording medium that records video and/or audio data;

recording area recording means for performing recording of video and/or audio data in a recording area in said recording medium;

command receiving means for receiving control commands from a device connected via a bus, and

AV file management means for, when a command that creates an AV (audio visual) file is received by said command receiving means, setting an AV file management table containing information on the correspondence between said recording medium recording areas and the AV file, and creating an AV file of the prescribed size;

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characterized by comprising a step of performing recording of video and/or audio data in said recording area on the basis of said AV file management table, by using said recording area recording means.

13. An audio visual data reproduce method using:

a recording medium that records video and/or audio data;

AV file management means for managing an AV file management table containing information on the correspondence between said recording medium recording areas and an AV file;

command receiving means for receiving control commands from a device connected via a bus; and

reproduce means for receiving said control commands and playing back video and/or audio data recorded by the audio visual data recording method according to claim 12,

characterized by comprising a step of:

receiving a reproduce instruction command that performs a reproduce operation on AV file data by using said command receiving means; and

performing reproduce of video and/or audio data from said recording area on the basis of said AV file management table by using said reproduce means on reception of said reproduce instruction command.

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15. A program recording medium characterized by recording a program for executing on a computer all or some of the functions of each step or each part of the audio visual data reproduce apparatus according to ~~any one of claims~~
7 ~~through 9.~~

17. A program recording medium characterized in that it records a program for executing on a computer all or some of the steps of the operation of the audio visual data reproduce method according to claim 13.

recording means for recording input AV data blocks
as an AV file;

AV file specification means for specifying an AV file;

record/reproduce position specification means for specifying the record/reproduce position in an AV file;

position information management means for assigning correspondence of absolute position information, whereby position information does not change as recording progresses, to each AV data block when sequentially input AV data blocks are recorded in an AV file, and recording and managing this as position information; and

record/reproduce position setting means for, when a record/reproduce position is specified by said record/reproduce position specification means, finding the AV data block matching said specified position, on the basis of said position information managed by said position information management means, in the AV file specified by said AV file specification means, and setting the record/reproduce position to that block;

characterized in that said recording means or reproduce means performs recording or reproduce with the record/reproduce position set by said record/reproduce position setting means in the specified AV file as the starting point.

19. The audio visual data recording and reproduce apparatus according to claim 18, characterized in that said recording means and reproduce means simultaneously

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perform loop recording operations and reproduce operations on the same AV file.

20. The audio visual data recording and reproduce apparatus according to claim 18 or 19, characterized by comprising:

control command receiving means for receiving control commands; and

position information output means for outputting position information assigned correspondence by said position information management means as the current record position or reproduce position, when a control command requesting position information is received by said control command receiving means.

21. The audio visual data recording and reproduce apparatus according to ~~any one of claims 18 through 21,~~ comprising control command receiving means for receiving control commands,

characterized in that said AV file specification means and said record/reproduce position specification means specify the AV file and record/reproduce position by means of the parameters of a control command received by said control command receiving means.

22. An audio visual data recording and reproduce apparatus, comprising:

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recording means for recording input AV data blocks as an AV file;

reproduce means for playing back AV data blocks recorded in an AV file:

AV file specification means for specifying an AV file;

record/reproduce position specification means for specifying the record/reproduce position in an AV file;

position information management means that has a first position information management method of assigning correspondence of absolute position information, the content of which does not change as recording progresses, to each AV data block when sequentially input AV data blocks are recorded in an AV file, and recording and managing this as position information; and a second position information management method of managing relative position information, with a given position in said AV file as the starting point, as position information for each AV data block; and that can switch said two methods according to the recording/reproduce operation mode; and

record/reproduce position setting means, when a record/reproduce position is specified by said record/reproduce position specification means, for finding the AV data block matching said specified position, on the basis of said position information corresponded by said position information management means, in the AV

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file specified by said AV file specification means, and for setting the record/reproduce position to that block;

characterized in that said recording means or reproduce means performs recording or reproduce with the record/reproduce position set by said record/reproduce position setting means in the specified AV file as the starting point.

23. The audio visual data recording and reproduce apparatus according to claim 22, characterized in that said recording means and reproduce means simultaneously perform loop recording operations and reproduce operations on the same AV file.

24. The audio visual data recording and reproduce apparatus according to claim 23, characterized in that said position information management means executes position information management by means of said first position information management method in the period from the point at which loop recording operations are started on an AV file until all recording operations and reproduce operations on said AV file end; and executes position information management by means of said second position information management method outside the above described period.

25. The audio visual data recording and reproduce apparatus according to claim 24, comprising segment

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management means for managing the segment structure within said AV file; characterized in that, when loop recording operation is restarted after being interrupted, said recording means records AV data blocks input after restarting in a new segment.

26. The audio visual data recording and reproduce apparatus according to any one of claims 22 through 25, characterized by comprising:

control command receiving means for receiving control commands; and

position information output means for outputting position information assigned correspondence by said position information management means as the current record position or reproduce position, when a control command requesting position information is received by said control command receiving means.

27. The audio visual data recording and reproduce apparatus according to any one of claims 22 through ²⁵~~26~~, comprising control command receiving means for receiving control commands; characterized in that said AV file specification means and said record/reproduce position specification means specify the AV file and record/reproduce position by means of the parameters of a control command received by said control command receiving means.

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